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ABSTRACT

This study compared the relative effectiveness of grants and loans in helping low-income students stay in college until graduation. The study analyzed two student-level databases. One database contained data on a national sample of high school seniors who began full-time study at four-year colleges and traced them through college. The other database contained data on a group of relatively low-income freshmen from a large public four-year university that "frontloaded" some of its institutional grant dollars as part of a program to improve these student's dropout rates. In addition the study sought the views of financial aid directors and 51 students from 12 colleges and universities. Results found that grant aid lowers the probability that low-income students will drop out, while loans have no statically significant impact on such students' drop-out rates. In addition, for low-income students, grant aid is relatively more effective during the first school year than in subsequent years. Results from a university that frontloaded grants for some students as well as providing them with academic and administrative support reinforced these findings. Appendixes contain detailed information on study methodology. Ten tables and seven figures illustrate the report. (JB)

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United States General Accounting Office

GAO

Report to Congressional Requesters

ED 381 078

arch 1995

HIGHER EDUCATION

Restructuring Student Aid Could Reduce Low-Income Student Dropout Rate

HE 028 216

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United States
General Accounting Office
Washington, D.C. 20548

Health, Education, and
Human Services Division

B-253597

March 23, 1995

The Honorable Claiborne Pell
Ranking Minority Member, Subcommittee
on Education, Arts, and Humanities
Committee on Labor and Human Resources
United States Senate

The Honorable Paul Simon
United States Senate

Postsecondary education is a strong determinant of relative wage earnings. College graduates earn much more than those with only a high school education or less, and the differential has been increasing. Low-income and minority students have traditionally been underrepresented among college students. For them, federal student financial assistance programs have become increasingly critical as college costs have increased faster than the rate of inflation since the 1970s and as low-income families lost ground relative to high-income families. Federal assistance to students pursuing higher education has exceeded $300 billion (in 1994 dollars) over the past 15 years.

While the federal government's investment to improve college access for low-income students has been substantial, recent changes in federal financial aid may inhibit broader college access. A growing proportion of federal aid has taken the form of loans rather than grants since the 1970s. With federal grant aid declining in relative terms, students and their families have had to shoulder a greater share of college expenses. Many policymakers have expressed concern that this trend in financial aid patterns, which increases students' net costs for higher education, has diminished college access—both initial entry and attendance through graduation—for low-income students.

As agreed, this report is our second and final product responding to your request that we compare the relative effectiveness of grants and loans in helping students stay in college until graduation. In previous testimony,[1] we focused on minority students and reported that while grant aid enhanced the chances that African American and Hispanic students would stay in college from year to year, loan aid did not. In this study, we focused on low-income students. We assessed the relative effects of grant and loan

[1]Higher Education: Grants Effective at Increasing Minorities' Chances of Graduating (GAO/T-HEHS-94-168, May 17, 1994).

aid throughout a student's academic career and then separately by year. Specifically, we addressed two questions regarding low-income students:

1. Do grants and loans have equivalent effects on helping students stay in college?

2. Does the timing of grant aid influence the length of time students stay in college?

To answer these questions, we analyzed two student-level databases to examine the statistical relationship between grants, loans, and staying in college. One database comprised a national sample of high school seniors who began full-time study at 4-year colleges; we traced these students through college. The other database consisted of a group of relatively low-income freshmen from a large public 4-year university that frontloaded[2] some of its institutional grant dollars as part of a program to improve these students' dropout rates.

To complement our statistical analysis and provide additional perspectives on our findings and observations, we talked to financial aid directors and students from 12 colleges and universities. We judgmentally selected four schools from each of three areas—Washington, D.C.; Philadelphia, Pennsylvania; and Seattle, Washington—for our study. We convened a discussion panel with financial aid directors from the schools in each area and asked them for their observations on trends in federal student financial aid, factors affecting students' staying in school, and the potential benefit of frontloading grants. We also interviewed 51 students from these 12 colleges and universities, asking them about their financial aid packages, the effects working has on their studies, and their thoughts about debt accumulation. Although the financial aid director and student responses illustrated ways financial aid affects students, neither group's responses were intended to be representative of the respective population as a whole. (For further details on our scope and methodology, see app. I.)

Results in Brief

Grants and loans do not have equivalent effects on low-income students' staying in college, according to our statistical results. Rather, on average, grant aid lowers the probability of low-income students' dropping out, while loans have no statistically significant impact on their dropping out. Furthermore, the timing of grant aid influences students' probability of

[2]For our purposes, frontloading grants entails giving students mostly grant aid in the first year and increasingly substituting loan aid in subsequent years, which culminates in an aid package consisting mostly of loans in the final school year.

dropping out. For example, on average, for low-income students, grant aid is relatively more effective during the first school year than in subsequent years. Sample-specific information from a university program that frontloaded grants for some students, and provided them with academic and administrative support, reinforced these findings. Program participants had substantially lower dropout probabilities than other comparable students. Financial aid directors and students with whom we spoke had mixed views on the potential efficacy of frontloading aid packages. Some thought the approach would be beneficial, but others raised such concerns as the bait-and-switch aspects of replacing grant awards with loans in later years.

Our statistical results, noting the limited experience with frontloading grants, suggest that conducting a pilot program may be valuable to evaluate the effects, including possible costs, of frontloading on reducing dropouts among low-income college students. Department of Education officials told us they would need to further review their legislative authority to determine whether they could conduct such a pilot.

Background

Most federal student financial aid programs are authorized under the Higher Education Act of 1965. Federal student financial assistance exceeded $30 billion in academic year 1993-94, and most assistance came from two programs—the Pell grant and Federal Family Education Loan (FFEL) programs. The Pell grant program, which primarily targets low-income students, accounted for about $5.7 billion, while the FFEL program comprised over $21 billion of the total federal aid.[3] Maximum annual awards to students in each program are capped: In 1993-94, the maximum Pell grant was $2,300, and the maximum subsidized Stafford loan—the largest of the FFEL loan programs—ranged from $2,625 for freshmen to $5,500 for seniors.

The Department of Education administers the Pell grant program in accordance with eligibility criteria and authorized maximum award amounts set by the Congress. In addition, the Congress effectively limits actual maximum Pell award amounts each year through the appropriations process. Actual maximum awards have been less than the authorized levels each year since 1980. For example, in 1993-94, the authorized

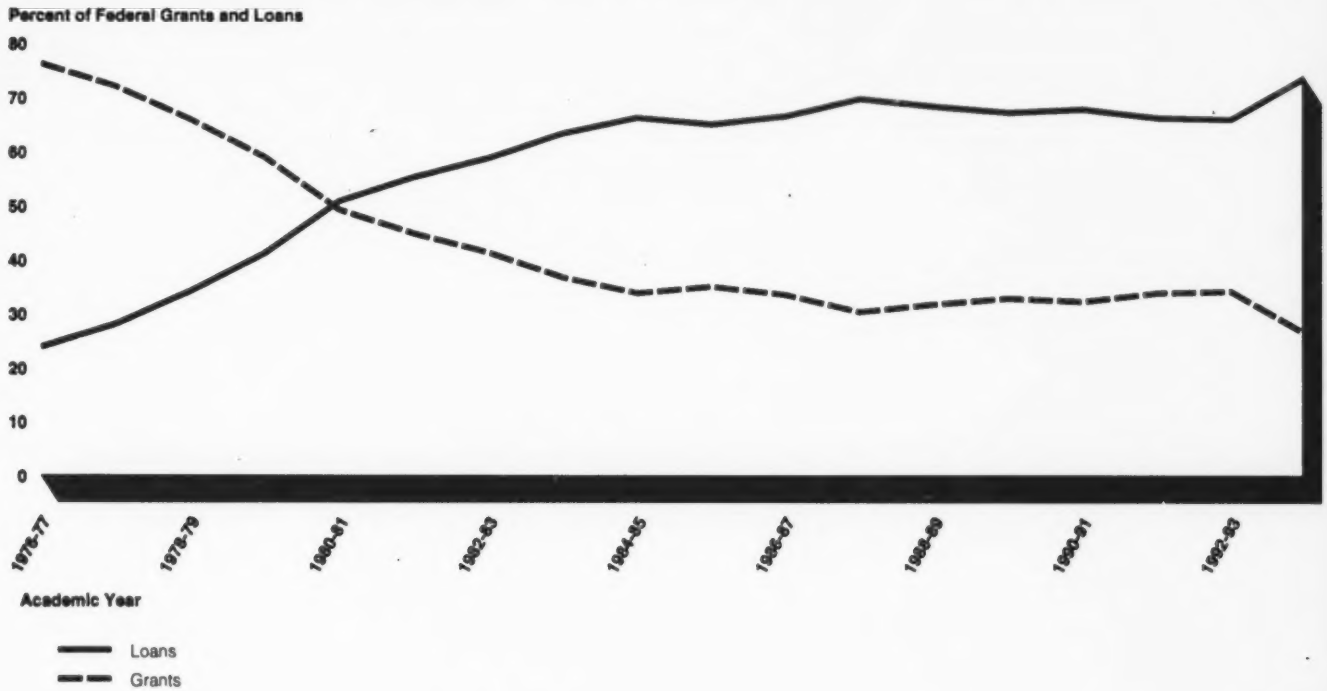
[3]Subsidized Stafford loans comprised $14 billion of the FFEL program funds. Students receiving subsidized loans do not pay interest while attending school or during a grace period after leaving school. When repayment begins, it is with a below-market interest rate. The remaining $7 billion of the FFEL program consisted of (1) Supplemental Loans for Students, (2) Parent Loans to Undergraduate Students, and (3) unsubsidized Stafford loans.

maximum Pell grant was $3,700, but the appropriation for the program limited the actual maximum award to $2,300.

Changing Federal Aid System Coincided With Rising College Costs

The composition of student financial assistance has changed dramatically over the past two decades. Although total federal aid has increased since the late 1970s, loan aid has increased far faster than grant aid. From 1977 to 1980, grant aid exceeded loan aid, but since 1985 loan aid has exceeded grant aid by about twice as much (see fig. 1).

Figure 1: Loan Aid Surpassed Grant Aid in Early 1980s



Budgetary concerns and program changes have limited grant aid for low-income students. As the deficit rose during the 1980s, policymakers' awareness of budgetary trade-offs and the need to leverage resources

grew. Under budget rules in effect during the 1980s, Stafford loans appeared to be a less expensive form of aid than grants in the budget year for which the decision was made. The budget would have showed the full cost of the grant but only that year's interest subsidy, less any fees in that year, for the loan, and the budget would have reflected the cost of any defaults arising from these loans only later, in the budget year they occurred. Thus, for a given federal expenditure, the government could offer more aid if it were provided as loans. In addition, the 1978 Middle Income Student Assistance Act extended eligibility for Pell grants to higher income students; however, appropriations did not allow for commensurate increases in program dollars. Consequently, more students now receive Pell grants, but the actual maximum award has remained approximately constant in nominal dollars since 1986.

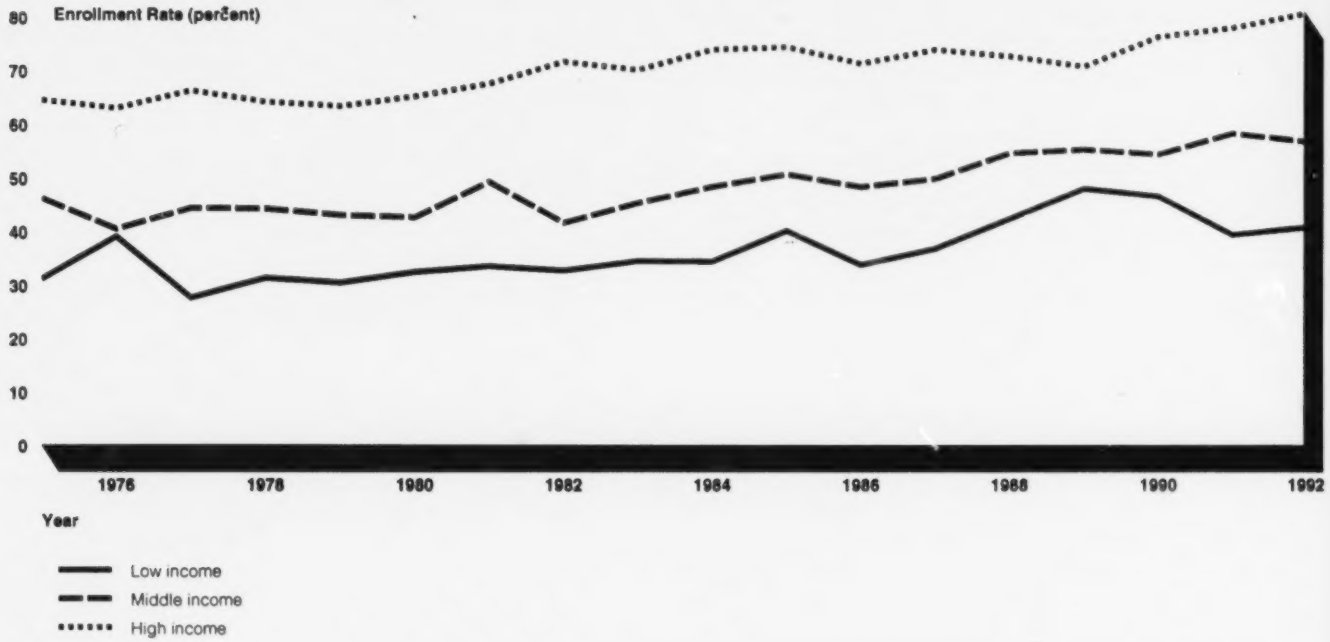
Cost pressures for low-income families have increased since the late 1970s, as the average cost of 4-year colleges and universities has increased faster than the inflation rate. Between 1978 and 1992, the average tuition, room, and board charge at 4-year public colleges and universities rose by 26 percent in real terms.[4] This had two distinct effects. First, college expenses at the average public university absorbed 11 percent of median family income in 1978 and 14 percent in 1992. For families at the 20th-income percentile, this charge increased even more, from 22 to 31 percent of income. Second, the actual maximum Pell grant, which covered over half the costs at the average public 4-year school in 1985, now covers less than 40 percent.

Low-Income Students Less Likely to Enroll and Stay in College

Low-income students are underrepresented among college students. Low-income students enroll in college at lower rates than high-income students, although enrollment rates have been rising for all income groups (see fig. 2).

[4]These expenses rose by 52 percent at private colleges and universities.

Figure 2: College Enrollment Rates Highest for High-Income Students



Notes: Low income is the bottom 20 percent of the family income distribution, middle income is the next 60 percent, and high income is the top 20 percent.

The enrollment rate is the percentage of high school graduates in a given year who were enrolled in college the October following graduation.

We found no data on students' degree completion by income group. However, minorities are overrepresented among low-income families, so their rates serve as a reasonable proxy for low-income students' graduation rates. Sample data show that minority students are less likely to stay in school and graduate than white students. For example, in one sample of students entering 4-year colleges in 1983, 1984, or 1985, 56 percent of white students completed degrees within 6 years, but only 41 percent of Hispanic students and 32 percent of African American students did so.[5]

[5]These data pertain to 298 National Collegiate Athletic Association Division I schools.

Principal Findings

Grants More Effective Than Loans in Reducing Dropouts

The composition of financial aid packages and the timing of particular aid components influence education outcomes. Our results indicated that, for low-income students, grant aid was effective in reducing dropouts, but loan aid was not.[6] In addition, grant aid for low-income students was most effective in the first year, with efficacy decreasing in the second and third years. The results of the university frontloading program strengthened our confidence in this finding. Students who received frontloaded grants had a lower dropout probability than other comparable students. Results of our statistical work showed the following.

- Grants versus loans: Grants significantly reduced dropout probabilities for low-income students. In the High School and Beyond database sample, an additional $1,000 in grant aid for a low-income student[7] reduced the dropout probability by 14 percent for the award year.[8] Loans did not have a statistically significant effect for this group—a commensurate increase in loans did not significantly affect the student's probability of dropping out.
- First-year students: Grants were most effective in reducing low-income students' dropout probabilities in the first year. For these students, an additional $1,000 grant in the first year reduced the dropout probability by 23 percent.[9] In the second year, the additional grant reduced the dropout probability by 8 percent[10] while, in the third year, it had no statistically discernable effect.
- Frontloading grants: The university's program for high-need freshmen, which included frontloading grants, had a significant effect on reducing dropouts.[11] Program participants were 39 percent less likely to drop out in

[6]All results in this "Principal Findings" section are based on regression coefficients that are significant at the 5-percent level, unless noted otherwise. We also give ranges around each point estimate. These ranges are the probabilities calculated on the high and low values of the 95-percent confidence interval around the underlying coefficient, meaning that a 95-percent probability exists that the range shown contains the true value.

[7]A low-income student in this sample was one whose family income was below $21,000. Dollar values in this section are in 1993 dollars.

[8]The range is from 9 to 20 percent.

[9]The range is from 14 to 32 percent.

[10]This result was significant only at the 10-percent level. The range is from 0 to 17 percent.

[11]Because the program also involved additional student support services, such as structured advice on course schedules and financial aid options, we cannot unequivocally attribute the entire dropout reduction to frontloading grant money.

a year than nonparticipants.[12] For the lowest income students, those below the poverty line, the program reduced the dropout probability by 64 percent.[13]

These results, with certain qualifications, indicate that frontloading grants for college students, especially low-income students, could improve dropout rates. The results pertain only to 4-year college students and thus have no implication for students at 2-year schools. Also, the frontloading experiment took place at a university that combined it with other programs to reduce dropouts, and the results are not generalizable beyond that school. In addition, the data did not allow us to identify any possible added costs associated with the university program. (For detailed information on the analyses that led to these results, see app. II.)

Results From Financial Aid Director Discussion Panels and Student Interviews

Comments from financial aid directors and students we interviewed helped us interpret the statistical results. One opinion arising in the directors' panels, for example, was that some low-income students are reluctant to borrow, especially during their first year or two in college. This observation is consistent with our statistical findings about grants being more effective than loans in increasing the likelihood that first-year, low-income students will stay in school. The directors we spoke with were generally positive about the potential benefits of frontloading grants, several saying it could help low-income students stay in college by giving them time to become acclimated to college and reducing financial pressures when students are most vulnerable to dropping out. One concern about frontloading was that students might perceive it as a bait-and-switch policy because it would involve reducing grant awards in later years. In the student interviews, we sometimes heard that borrowing was initially difficult for students and that grant aid made the difference in their being able to start college. Another theme among the students was that year-to-year consistency was important in their aid packaging, so that they could plan ahead without disruptions, and that frontloading seemed contrary to the principle of consistency. (For a discussion of the full range of comments from financial aid directors and students we spoke with, see app. III.)

[12]The range is from 15 to 57 percent.

[13]The range is from 23 to 83 percent.

Pilot Frontloading Program: Departmental Authority and Implementation and Evaluation Issues

We discussed with Department officials the value and feasibility of their conducting a pilot frontloading program. They thought frontloading held promise and expressed an interest in such a pilot program. They told us that they might have authority under current law (20 U.S.C. § 1094a(d) (1988 and Supp. IV 1992)) to conduct a pilot. This law authorizes the Department to designate institutions that volunteer to participate as "experimental sites." These institutions help evaluate the impact and effectiveness of proposed regulations or new management initiatives. The Secretary of Education may exempt participating institutions from legal requirements as necessary to conduct the experiments. The officials said that they had not yet determined whether this authority would permit a pilot frontloading program and that they might need specific authority from the Congress to conduct a pilot.

Such a pilot program would need to address several implementation issues. The potential benefits of frontloading could be lost if institutional aid policies were changed to offset the federal change. Schools would need to be encouraged to ensure that overall grant aid, meaning federal and institutional aid combined, were frontloaded. Also, because eligibility for federal financial aid is based in part on annual income and other family resources that change over time, the amount of aid a student qualifies for changes each year. Frontloading would entail estimating a 4-year package, requiring methods not currently employed in aid determination. It would also involve adjusting loan limits for third- and fourth-year students at pilot schools and developing aid award rules for students who transfer between pilot and nonpilot schools.

In evaluating a pilot program, changes in dropout rates and possible costs would have to be considered carefully. A policy of frontloading grants might attract students to college who would not have attended otherwise. Although some of these students would graduate, on the whole their dropout rate could be higher than that of the current student population. Frontloading might reduce the number of dropouts among students who now attend college, but high dropout rates among this new college population could leave the overall dropout rate unchanged or higher. Moreover, the pilot's benefits must be examined relative to its possible

costs. [14] Frontloading Pell grants to students who will still drop out entails an additional cost. However, since some of these students might have defaulted on loans, the amount of additional cost is unclear. Finally, the Department should assess whether administrative changes that schools would be required to make would impose costs or other burdens.

Conclusions

Our statistical analysis indicates that loans and grants are not equivalent in terms of affecting education outcomes for low-income students. Aid packages with relatively high grant levels may improve low-income students' access to higher education more than packages that rely more on loans. In addition, our analysis indicates that the earlier low-income students receive grant assistance, the more likely they are to stay in college.

Departure from the conventional approach to dispersing student financial aid—relatively proportionate amounts each year— could further improve low-income students' dropout rates. Given that the dropout rate is highest in students' first 2 years, frontloading grants would appear to provide low-income students with the most effective means of financial support when they are most likely to benefit from it. Restructuring federal grant programs to feature frontloading could improve low-income students' dropout rates with little or no change to each student's overall 4-year allocation of grants and loans.

Given our statistical results, the mixed views of aid directors and students we spoke with, and the limited experience with frontloading, we believe there is merit in conducting a pilot program to evaluate the effects and costs associated with frontloading.

Matter for Congressional Consideration

If the Congress is interested in increasing the number of low-income students who stay in college, it may wish to direct the Department of Education to conduct a pilot program of frontloading federal grants at a limited number of 4-year schools chosen to generally typify such schools. The pilot should cover a 4- to 5-year college cycle and enable an

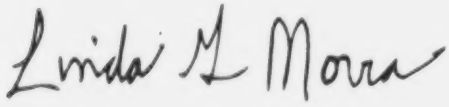
[14] In designing the pilot program, attention would have to be paid to its impact on the federal budget. The Budget Enforcement Act of 1990 sets limits on discretionary appropriations, such as those that fund the Pell grant program. All discretionary programs compete with each other for funding under the limits. The act also requires that legislative changes that increase costs of mandatory programs—including the FFEL programs—be offset. If legislation were required to implement the program, the exact impact of these latter provisions would depend on the specific language in the legislation. In economic terms—but not for the budget—frontloading grants entails additional costs because reduced grant expenditures in future years are discounted and thus do not offset increased grant expenditures in the first 2 years.

assessment of potential benefits and costs and a decision regarding the approach's broader applicability. This action may require the Congress to grant the Department authority to conduct such a pilot.

Agency Comments

As agreed, we did not obtain written comments on the report from the Department of Education, but we discussed our findings with program officials. The officials generally agreed with our results and made suggestions, which we incorporated in the report as appropriate.

We conducted our review between March 1993 and December 1994 in accordance with generally accepted government auditing standards. We are sending copies of this report to the Secretary of Education, congressional committees, and other interested parties. Please call Cornelia M. Blanchette or me on (202) 512-7014 if you or your staff have any questions about this report. Other GAO contacts and contributors are listed in appendix IV.



Linda G. Morra
Director, Education
and Employment Issues

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Abbreviations

FFEL	Federal Family Education Loan
SAT	Scholastic Aptitude Test
SEOG	Supplemental Education Opportunity Grant

Scope and Methodology

To examine the effects of grants and loans on the probability of students' staying in college or dropping out, we analyzed two databases: (1) High School and Beyond, a national survey of students begun in 1980, and (2) financial aid data from a large public university.[15] The two databases included different information, but they both contained year-by-year totals for grants and loans each student received, tuition the student paid, and background information on the student. In addition, we could determine the number of years a student remained in school and if and when that student dropped out. We used duration analysis to determine the factors affecting the probability of staying in college or dropping out. To help understand the reasoning and decision-making behind our statistical results, we conducted discussion panels with financial aid directors and interviews with students at selected schools. Our analysis covered only students in 4-year undergraduate programs; we did not include community colleges, proprietary schools, or graduate or professional programs.

Regression Analyses

High School and Beyond Data

The High School and Beyond survey was first conducted in 1980. Graduating high school seniors were asked questions about family background, educational attainment, and future plans. To obtain information on activities since high school, these same students were then reinterviewed in 1982, 1984, and 1986. This provided longitudinal information on students in the initial sample.[16] We selected for analysis those students who began college full time at a 4-year school immediately after high school. We followed these students through their college years and noted whether they continued from year to year or dropped out. Our sample consisted of 3,652 students.

The High School and Beyond survey oversampled African American and Hispanic students. This oversampling resulted in sufficient observations on these populations for meaningful results to be obtained for them. We weighted our sample data so that the proportions of African Americans,

[15]In consideration of their help and cooperation in providing data to us, we have agreed not to identify the university.

[16]The High School and Beyond survey was conducted by the National Center for Education Statistics of the Department of Education. It is the most recent longitudinal survey the Department has conducted that has information on students' completed college careers.

Hispanics, whites, and others would match population proportions.[17] Except when we analyzed data separately by race, we reported weighted means and regression results in all cases.

University Financial Aid Data

We analyzed financial aid records from a large public university that recently implemented a new financial aid packaging strategy, which included frontloading grant money for certain first-year students.[18] The university designated a group of "high-need" first-year students, who required additional support because they came from economically or academically disadvantaged backgrounds or both. After these students had received Pell grants, Supplemental Education Opportunity Grants (SEOG), and a small Perkins loan,[19] they received university grants to cover remaining need. In the second and later years, their financial aid packages were weighted with more loans.

Some of the high-need freshmen were less academically prepared than the university's average enrollee, officials at the university said, but we could not identify these students separately in the data. Therefore, to measure differences in student academic readiness for college, our analysis included controls for a student's score on the Scholastic Aptitude Test. In addition, program participants received additional academic and administrative support, such as precollege course work in their first year[20] and structured advice on course schedules and financial aid options. We thus do not attribute program outcomes solely to frontloading.

The university gave us 5 years of data on a cohort of students that began as full-time, first-year students under the new system in the 1988-89 academic year. We constructed records on the students for the 5 years, noting the type and amount of aid received each year and how long they

[17]Specifically, we weighted data according to the proportion of students in the national population entering 4-year colleges for the first time in 1980.

[18]Frontloading grant money entails giving students a proportionally higher amount of grant money in the first year and less grant money, with proportionally more loans, in later years.

[19]The Pell grant and SEOG programs are the federal government's two programs targeting grant funds to low-income students; the Pell grant program is by far the larger program. Perkins loans are also targeted to low-income students, and their interest rate is lower than that for the much larger Federal Family Education Loan (formerly Stafford Loan) program.

[20]Students in the program could take up to two precollege courses out of four courses in each semester of the first year. A student taking the maximum number of these courses would complete one semester of college credit in the first full year, after which the student would be required to make standard academic progress.

remained in school.[21] We also had student background data that remained constant over time.

The data provided by the university did not indicate whether students who left before graduation had transferred to another school. To identify transfer students, we matched student records with Pell grant and Stafford loan data supplied by the Department of Education. For students who received Pell grants or Stafford loans within three semesters of leaving the university, we recoded the dependent variable so that we would not count them as dropouts.

For our analysis, we selected students whose family incomes in their senior year of high school were below 300 percent of the poverty line. We did this to ensure that students in and out of the high-need program were somewhat comparable, although those in the high-need group were still, on average, from poorer families.

Duration Analysis of the Two Databases

Our duration analysis examined the probability of a student's dropping out in a particular year, given that he or she attended school up to the beginning of that year. Duration analysis, also known as hazard analysis, is typically used to estimate factors that result in someone's remaining in a particular state (for example, "unemployed" or "in college") for a short or long period of time. As some students leave the database by dropping out, the sample becomes smaller each period. For example, in our data, the first-year dropout probability was computed for all students in the sample, but the third-year dropout probability was computed only for those who completed the first 2 years in college.

Our analysis was a modified hazard model. A hazard model treats the length of time as the dependent variable. In our analysis, we would have regressed the number of years in school on the explanatory variables we chose. However, because we included some independent variables whose values changed over time, specifically financial aid levels received each year, this type of hazard model would have been complicated to construct. Instead, we set the data up so that each person-year was an observation. A student in college for 1 year, who then dropped out, appeared in the database only once; someone in school for 4 years appeared as four

[21]We defined a dropout as a student who left school for more than two consecutive semesters, whether they ultimately returned or not. If a student took two semesters off and then returned, that student was not considered to have dropped out, but if the time off was three or more semesters, the student was considered a dropout as of the last semester in school. Most students who left for more than two consecutive semesters never appeared again in the data.

separate observations. The dependent variable in our regressions was whether or not the student dropped out in a given year. We used a logit model to analyze the resulting database.[22]

The independent variables of interest were grants and loans. To see whether the impact of grants and loans varied by certain factors, we analyzed subsamples of the database based on income group, race, and year.

Discussion Panels With Financial Aid Directors and Interviews With Students

We judgmentally selected 12 colleges and universities in three areas. We chose six public and six private schools, and we selected schools that varied by such factors as size, tuition, and urbanicity. The schools we selected are shown in table I.1.

[22]See Paul D. Allison, Event History Analysis: Regression for Longitudinal Event Data, SAGE University Paper No. 46 (Newbury Park, Cal.: 1984), pp. 14-19, for further details on this methodology.

Table I.1: Schools GAO Visted

School	Location	Sector	Undergraduate population	Tuition, room, and board[a]
Washington, D.C., area				
George Mason University	Fairfax, Va.	Public	13,351	$8,728
George Washington University	Washington, D.C.	Private	5,900	23,768
Howard University	Washington, D.C.	Private	7,668	11,676
University of Maryland	College Park, Md.	Public	23,331	8,182
Philadelphia, Penn., area				
Rutgers University	New Brunswick, N.J.	Public	22,706[b]	8,841[c]
Swarthmore College	Swarthmore, Penn.	Private	1,387	24,782
Temple University	Philadelphia, Penn.	Public	18,239	10,356
University of Pennsylvania	Philadelphia, Penn.	Private	9,969	24,638
Seattle, Wash., area				
Pacific Lutheran University	Tacoma, Wash.	Private	2,882	16,944
Seattle Pacific University	Seattle, Wash.	Private	2,272	16,503
University of Washington	Seattle, Wash.	Public	24,938	5,760
Western Washington University	Bellingham, Wash.	Public	9,274	$6,227

[a]In-state rate for public institutions.

[b]Total undergraduate enrollment for seven colleges of Rutgers University in New Brunswick, New Jersey.

[c]Costs for Rutgers College, largest of the seven colleges.

Source: Peterson's Guide to Four-Year Colleges—1995 (Princeton, N.J.: Peterson's Guides, Inc., 1994).

To allow interaction between the financial aid directors, we used discussion panels. For the students, we thought a discussion or focus group might inhibit some from telling us about their financial situations, so we interviewed them individually. We did not project from financial aid director or student responses because we knew our sample was not representative. Instead, we used the comments to illustrate some of the thinking that might have led to our quantitative results.

Discussion Panels With Financial Aid Directors

We held three discussion panels with financial aid directors, bringing together the four directors in each region.[23] We asked them to describe changes in federal aid policy that they had observed over time and how these changes had affected institutional or other patterns of financial aid. We also asked them whether the changes had affected student decisions to remain in college until graduation. Finally, we asked their opinions on whether grants are more or less effective than loans and their thoughts on how students made the trade-off between a small grant and a larger loan and on frontloading grants.

Student Interviews

The colleges and universities identified students for us to interview. We asked them to select both current students and those who had dropped out, but none of the schools could give us names and addresses of dropouts. We did, however, interview some students who had taken time off and returned to school as well as some transfer students.

In the interviews, we asked students to describe the role of grants and loans in financing their education and in year-to-year decisions to stay in school. We asked how they would describe the trade-off between grants and loans: that is, in general, did they prefer a small grant or a larger loan? We tried to determine whether debt burden is a major concern and whether it had caused them to reconsider staying in school, which major to choose, or whether to go on to graduate or professional school. We also asked them about work, either as work-study or an outside job, including the effect on their studies of spending time at work.

[23]In one city, one director was sick on the day of the discussion so that panel had only three participants.

Detailed Results of Regression Analyses

High School and Beyond Analysis

Grants significantly reduced dropout probabilities for most groups of students, including low-income, first-year, and minority students, according to our analysis of the High School and Beyond database. On the other hand, loans reduced dropout probabilities overall and for middle-income students but not for others.

The database contained information on the tuition students paid and their grant and loan awards. It also contained a wide variety of student background information, including family characteristics and academic achievement, which we included as controls in our regressions. The variable definitions, as well as means and standard errors for first-year observations—that is, for the initial sample before anyone dropped out—appear in table II.1.

Table II.1: Variables Used in Regression Analysis of High School and Beyond Data

Variable	Description	Mean	Standard deviation
Continuous variables			
Base year test	Score on a test administered to sampled students in 1980	56.3	7.1
High school to college	Percentage of previous class at student's high school that went to college	54.6	22.5
Family size	Number in student's family	3.52	1.58
Tuition	Tuition paid in year[a]	5.064	4.548
Grants	Grants received in year[a]	1.875	3.461
Loans	Loans received in year[a]	1.489	1.949
Cumulative loans	Loans received from start of college through previous year	[b]	[b]
Categorical variables (equal 1 if condition is true)			
Family income grouping (1993 dollars)	Lowest income (below $12,300)	0.050	0.219
	Second lowest income ($12,300-$21,000)	0.078	0.269
	Third lowest income ($21,000-$28,100)	0.111	0.314
	Middle income ($28,100-$35,100)	0.132	0.338
	Third highest income ($35,100-43,800)	0.162	0.368
	Second highest income ($43,800-$66,600)	0.213	0.410
	Highest income (over $66,600)	0.253	0.435
Urban	Student went to high school in an urban area	0.205	0.404

(continued)

Variable	Description	Mean	Standard deviation
Sex	Male	0.459	0.498
	Female	0.541	0.498
Parents college	At least one parent graduated from college	0.257	0.437
Good grades	Student received As and Bs in high school	0.806	0.396
Region of United States in which student attended high school	Northeast	0.281	0.449
	South	0.266	0.442
	Midwest	0.324	0.468
	West	0.130	0.336
Race	African American	0.090	0.286
	Hispanic	0.030	0.171
	White	0.860	0.347
	Other race	0.020	0.140

[a]Thousands of 1993 dollars.

[b]Equals zero for all first-year observations.

Before conducting our regression analysis, we examined crosstabulations of certain variables with dropouts, the outcome variable. Low-income students were more likely to drop out of college than middle- and high-income students. In addition, in our sample, second-year students were more likely than first- or third-year students to drop out. We also examined those who dropped out in the first year to determine their income group; low-income students were again the most likely to drop out. The sample dropout probabilities are shown in table II.2.

Table II.2: Sample Probability of Dropping Out

	Category of student	Dropout rate (percent)
Income	Low income[a]	14.2
	Middle income[b]	10.4
	High income[c]	6.7
Year	First year	8.6
	Second year	11.7
	Third year	6.7
First year, by income group	Low income[a]	13.3
	Middle income[b]	9.9
	High income[c]	6.2

[a]Income below $21,000.

[b]Income from $21,000 to $43,800.

[c]Income above $43,800.

Grants More Effective Than Loans

Grants reduced dropout probabilities more than equal-sized loans in the baseline model, although both grants and loans had a statistically significant effect (see table II.3). Because "dropout" is the dependent variable, the negative coefficient for grants and loans means that an increase in the value of either variable led to a reduced probability of dropping out. Results for other variables are as expected: students with good high school grades and test scores, with parents who went to college, and from higher income families were the least likely to drop out of college.

Table II.3: Baseline Regression Results for High School and Beyond Data

Variable	Coefficient	Standard error	t-value
Constant	0.147	0.355	0.41
Base year test[a]	–0.0309	0.0059	–5.26
High school to college[a]	–0.00752	0.00181	–4.15
Family size	0.0266	0.0231	1.15
Tuition[a]	–0.0642	0.0202	–3.18
Grants[a]	–0.1843	0.0370	–4.99
Loans[a]	–0.0862	0.0412	–2.09
Cumulative loans[a]	0.0873	0.0337	2.59
Lowest income[a]	1.272	0.172	7.38
Second lowest income[a]	0.922	0.160	5.78
Third lowest income[a]	0.897	0.139	6.44
Middle income[a]	0.753	0.136	5.52
Third highest income[a]	0.512	0.130	3.95
Second highest income[a]	0.407	0.123	3.31
Urban	–0.0828	0.0936	–0.89
Female	0.0319	0.0756	0.42
Parents college[a]	–0.283	0.100	–2.82
Good grades[a]	–0.880	0.0893	–9.85
Northeast[b]	0.167	0.100	1.66
South	–0.0774	0.0973	–0.80
West[a]	0.254	0.120	2.11
African American	–0.191	0.132	–1.45
Hispanic	–0.00518	0.194	–0.03
Other race[b]	–0.531	0.297	–1.79
Year 2[a]	0.305	0.0869	3.51
Year 3[a]	–0.350	0.114	–3.07

Note: Omitted variables were midwest for region, white for race, male for sex, highest income for income, and first year for year.

[a]Significant at the 5-percent level.

[b]Significant at the 10-percent level.

Two other dollar variables had significant effects on dropouts. First, tuition was negatively associated with the probability of dropping out. Holding all else constant, higher tuition might be expected to lead to a greater likelihood of dropping out. However, we did not have a measure of the quality of the college the student was attending; high tuition might, in fact, have been a proxy for a high-quality college. If high-tuition colleges

enrolled relatively better quality students who would be less likely than average to drop out, then tuition would be negatively correlated with the probability of a student's dropping out. Second, cumulative loans had a positive effect on dropping out. This result indicates that although loans in the current year helped students stay in school, accumulation of loans over several years may have led students to drop out.

The year 2 coefficient was positive and the year 3 coefficient negative, indicating that dropouts were more likely in the second year than the first but least likely of all in the third year.

Probability Results

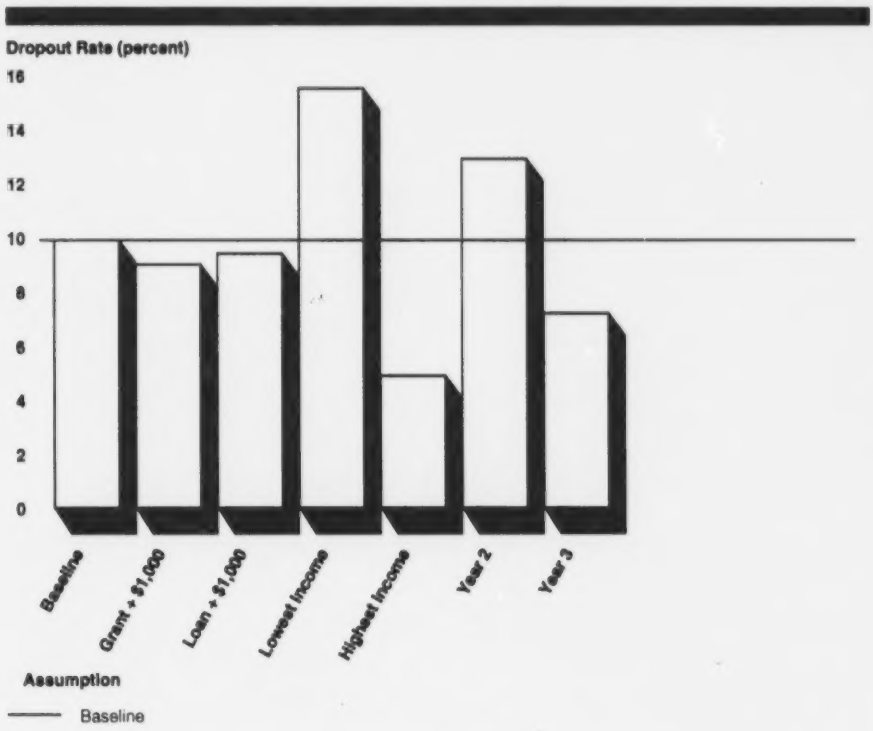
Because we used a logit regression, changes in independent variables could not be directly interpreted as changes in the probability of dropping out. Instead, we made a set of assumptions about a student, computed the probability of that student's dropping out, and then changed the assumptions, one at a time, to examine the effects of individual variables. We first took the baseline results and, holding other variables constant, changed the amount of grants and loans by $1,000 each. We then examined the effects of differences in other variables, such as income and race.

Under our initial assumptions, a student had a 9.9 percent probability of dropping out of college in a given year.[24] If the student received $1,000 in additional grants in the year,[25] the dropout probability fell to 9.0 percent, or by 9 percent (see fig. II.1). With an additional $1,000 loan, on the other hand, the probability fell to 9.4 percent, a 4-percent decline. Differences in values of other variables significantly affected dropout probabilities as well. For example, a student from the lowest of the seven income groups had a 57 percent greater probability of dropping out than a middle-income student; one from the highest income group had a 50 percent lower probability.

[24]See figure II.1 for baseline assumptions.

[25]All dollar figures are in 1993 dollars.

Figure II.1: Dropout Probabilities Vary as Assumptions Are Changed



Notes: Baseline assumptions are that the student was a white female from a middle-income family who went to high school in a nonurban area of the northeastern United States, received As and Bs in high school, and whose parents did not go to college. The following variables were held at mean values in the baseline simulation for the sample: base year test score, percent of high school class going to college, family size, tuition, grants, loans, and cumulative loans.

All results are based on coefficients statistically different from zero at the 5-percent level.

Regressions Based on Different Subsamples

To further analyze the impacts of grants and loans on different types of students, we performed regressions for subsamples of our sample. We set the regressions up in the same way as the baseline regressions except for including only certain observations in each regression: for example, only students from the two lowest income groups, only first-year observations, or only African American or Hispanic students. We report first the coefficient results for selected variables and then probability results.

For low-income, minority, and first-year students, grants were more effective than loans in reducing dropout probabilities, although the

differences between the effects of the two types of aid varied across groups (see table II.4). For low-income students, grants reduced the dropout probability the most in the first year, and they were decreasingly effective in the second and third years. Loans never significantly reduced the dropout probability for low-income students and actually increased the probability in the third year. The regressions include all other relevant variables from the baseline regression, but results for these variables are omitted from this table.

Table II.4: Comparison of Grants and Loans for Different Population Groups

Population	Variable	Coefficient	Standard error	t-Value
Overall				
	Grants[a]	-0.184	0.037	-4.99
	Loans[a]	-0.086	0.041	-2.09
	Cumulative loans[a]	0.087	0.034	2.59
Year 1				
	Grants[a]	-0.136	0.057	-2.37
	Loans	-0.081	0.066	-1.22
	Cumulative loans	[c]	[c]	[c]
Year 2				
	Grants[a]	-0.240	0.061	-3.96
	Loans[a]	-0.195	0.074	-2.62
	Cumulative loans[a]	0.143	0.068	2.12
Year 3				
	Grants[a]	-0.169	0.081	-2.07
	Loans	0.022	0.083	0.27
	Cumulative loans[b]	0.087	0.046	1.88
Low income (income categories 1 and 2)				
	Grants[a]	-0.313	0.063	-5.00
	Loans	0.066	0.085	0.78
	Cumulative loans	-0.015	0.086	-0.17
Middle income (income categories 3 through 5)				
	Grants[a]	-0.138	0.051	-2.72
	Loans[a]	-0.155	0.063	-2.47
	Cumulative loans[a]	0.153	0.048	3.19
High income (income categories 6 and 7)				

(continued)

Population	Variable	Coefficient	Standard error	t-Value
	Grants[a]	–0.186	0.084	–2.23
	Loans	–0.067	0.071	–0.95
	Cumulative loans	0.047	0.060	0.80
Low income: year 1				
	Grants[a]	–0.497	0.105	–4.76
	Loans	–0.225	0.165	–1.36
	Cumulative loans	[c]	[c]	[c]
Low income: year 2				
	Grants[b]	–0.196	0.105	–1.87
	Loans	–0.058	0.161	–0.36
	Cumulative loans	0.166	0.148	1.12
Low income: year 3				
	Grants	–0.183	0.137	–1.34
	Loans[a]	0.676	0.189	3.59
	Cumulative loans[a]	–0.336	0.149	–2.26
African American				
	Grants[a]	–0.133	0.052	–2.55
	Loans	0.031	0.073	0.43
	Cumulative loans	0.010	0.067	0.15
Hispanic				
	Grants[a]	–0.243	0.071	–3.41
	Loans[b]	–0.188	0.109	–1.73
	Cumulative loans	0.123	0.082	1.50
White				
	Grants[a]	–0.217	0.055	–3.91
	Loans[b]	–0.103	0.057	–1.81
	Cumulative loans[a]	0.107	0.046	2.29
Other race				
	Grants	0.081	0.066	1.22
	Loans	0.200	0.168	1.19
	Cumulative loans	–0.347	0.264	–1.31

(Table notes on next page)

Note: Overall model includes a constant and controls for base year test, high school to college, family size, tuition, income, urban, female, parents college, good grades, region, race, year, grants, loans, and cumulative loans. Subsequent models are for subsamples based on values of a particular variable; they control for all other variables.

[a]Significant at the 5-percent level.

[b]Significant at the 10-percent level.

[c]Omitted from regression because value was zero for all observations.

Probability Results

For low-income students, grants decreased the probability of dropping out, while loans did not (see table II.5). These calculations are based on the regression results shown in table II.4.

Table II.5: Grants More Effective Than Loans for Some Groups

Population	Assumption	Dropout probability (percent)	Change in probability from baseline (percent)
Low income (income categories 1 and 2)	Baseline	15.2	
	Grant + $1,000	13.0	-14[a]
	Loan + $1,000	15.7	+3
Year 1	Baseline	9.9	
	Grant + $1,000	9.2	-7[a]
	Loan + $1,000	9.5	-4
Low income and year 1	Baseline	9.4	
	Grant + $1,000	7.3	-23[a]
	Loan + $1,000	8.4	-11
Low income and year 2	Baseline	30.0	
	Grant + $1,000	27.7	-8[b]
	Loan + $1,000	29.3	-2
African American	Baseline	11.4	
	Grant + $1,000	10.7	-7[a]
	Loan + $1,000	11.6	+2
Hispanic	Baseline	17.4	
	Grant + $1,000	15.5	-11[a]
	Loan + $1,000	15.9	-9[b]

Note: Baseline results are the baseline for each group individually. For example, for the low-income group, the mean levels for evaluation are means for low-income observations; in previous tables, results for each subpopulation were computed on the basis of the overall sample means.

[a]Based on coefficient that is significant at the 5-percent level.

[b]Based on coefficient that is significant at the 10-percent level.

Analysis of Data From a Public University

We analyzed financial aid data provided to us by a public university to examine (1) the relationship between different types of financial aid and whether students remained in college from year to year and (2) the effectiveness of a program involving an alternative form of financial aid packaging. Beginning in the 1988-89 academic year, this university embarked on a program of giving some of its high-need freshmen aid consisting entirely, or almost entirely, of grants and having those students take on loans only in later years. In addition, these students received

additional academic and administrative support. We refer to this group as the high-need group and the special aid program as the high-need program.

Our sample consisted of 1,414 first-year students in 1988-89 whose families had incomes below 300 percent of the poverty line, and we followed this cohort for 4 years. We restricted the sample so that the students in and out of the high-need program would be somewhat comparable. We analyzed the effect of grants, loans, and participation in the program, controlling for income, Scholastic Aptitude Test (SAT) score, and other factors. Variable definitions, means, and standard deviations for first-year students are shown in table II.6.

Table II.6: Variables Used in Regression Analysis of University Data

Variable	Definition	Mean	Standard deviation
Continuous variables (thousands of 1993 dollars)			
Grants	Grants received in year	4.789	2.282
Loans	Loans received in year	0.817	1.202
Cumulative loans	Total loans received prior to year	[a]	[a]
College work-study	Work-study funds received in year	0.377	0.660
Unmet need	Tuition, room, and board, less financial aid received in year	3.491	2.399
Categorical variables (equal 1 if condition is true)			
High-need program	Participant in the university's high-need program	0.347	0.476
In-state	State resident	0.933	0.250
Family income grouping	Lowest income (below poverty level)	0.231	0.422
	Middle income (between poverty and twice poverty level)	0.375	0.484
	Highest income (between two and three times poverty level)	0.394	0.489
Race	Asian	0.133	0.340
	African American	0.223	0.416
	Hispanic	0.178	0.382
	White	0.453	0.498
	Other race	0.013	0.115
SAT grouping	Lowest score (lower than 800 combined math and verbal)	0.234	0.424
	Middle score (from 800 to 1190 combined math and verbal)	0.683	0.465
	Highest score (1200 or higher combined math and verbal)	0.083	0.276
Sex	Male	0.409	0.492
	Female	0.591	0.492

[a]Equals zero for all first-year observations.

Aid for High-Need Freshmen

In our sample, students in the high-need program received more grants than those not in the program during all 4 years of college, and their loan amounts were generally low in the first year (see figs. II.2 and II.3). These

students were more likely to come from relatively low-income families compared with those not in the program (see table II.7), so the higher overall amount of grants is not surprising. The differences between students in and out of the program hold even though our entire sample was restricted to students from families with income below three times the poverty line.

Figure II.2: Grant Aid Received by Two Groups of Students

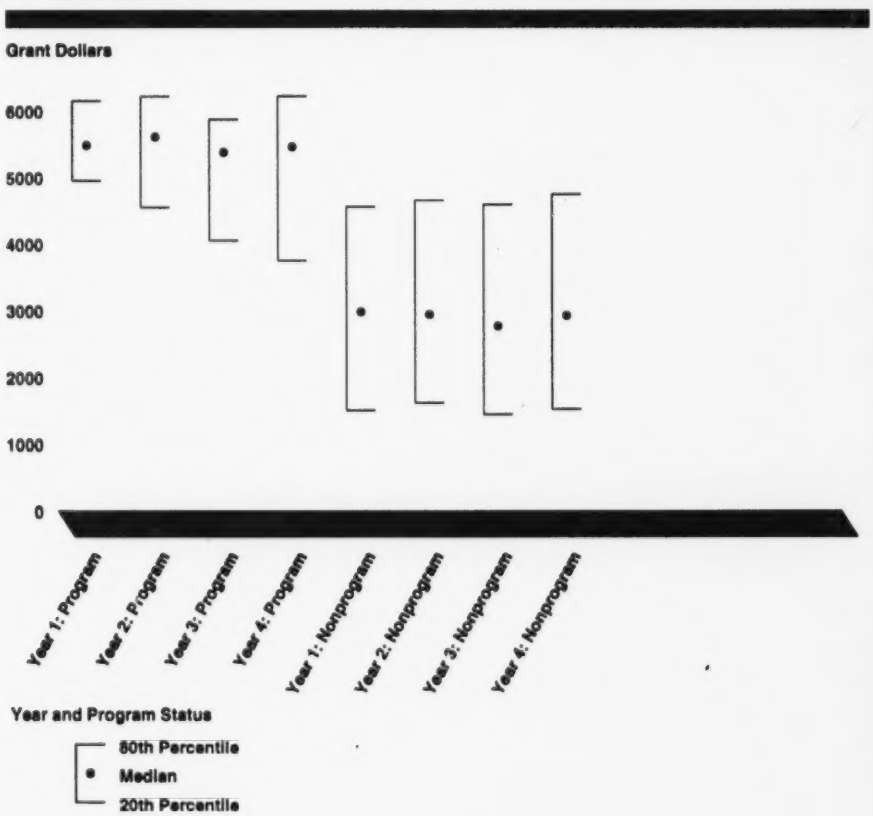


Figure II.3: Loan Aid Received by Two Groups of Students

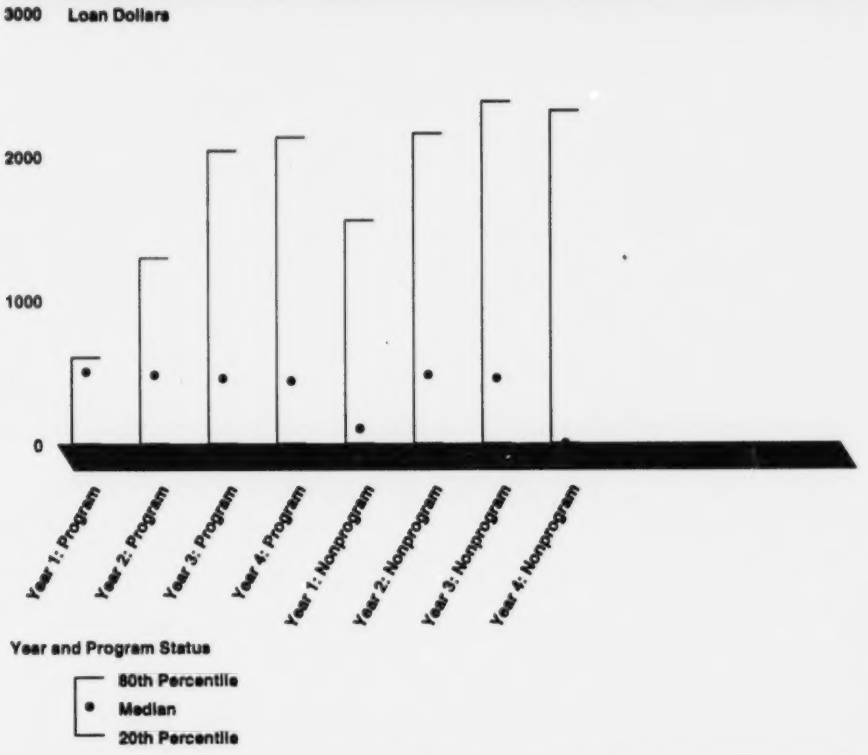


Table II.7: High-Need Program Status by Income Level

Program status	Lowest income (percent)	Middle income (percent)	Highest income (percent)	Total (percent)
Program	44.0	48.9	7.0	100.0
Nonprogram	13.8	31.8	54.4	100.0

Program Involving Frontloading Reduced Dropout Probability

Participation in the high-need program reduced the probability of dropping out, even controlling for financial aid (see table II.8). The coefficient result for the high-need program means that a student in this program is 39 percent less likely to drop out than one not in the program if other factors are held constant.

Table II.8: Baseline Regression Results for University Data

Variable	Coefficient	Standard error	t-Value
Constant[a]	–2.09	0.780	–2.68
Grants[a]	–0.403	0.0848	–4.75
Loans	–0.0350	0.0819	–0.43
Cumulative loans	0.0501	0.0530	0.95
College work-study	–0.0416	0.135	–0.31
Unmet need	–0.0630	0.0763	–0.83
High-need program[a]	–0.560	0.192	–2.91
In-state	0.462	0.297	1.55
Lowest income[a]	0.643	0.203	3.17
Middle income[a]	0.460	0.166	2.77
Asian[a]	–0.786	0.275	–2.86
African American[b]	0.326	0.184	1.77
Hispanic[a]	0.439	0.185	2.37
Other race	–0.143	0.609	–0.23
Lowest SAT score	0.198	0.314	0.63
Middle SAT score	0.0419	0.268	0.16
Female[a]	0.469	0.133	3.54
Year 1[a]	0.997	0.262	3.81
Year 2[a]	0.752	0.246	3.06
Year 3	0.0849	0.257	0.33

Note: Omitted variables were nonprogram for high-need program, out of state for in state, highest income for income, white for race, highest score for SAT grouping, male for sex, and fourth year for year.

[a]Significant at the 5-percent level.

[b]Significant at the 10-percent level.

As in the High School and Beyond data, grants were more effective in reducing the dropout probability than loans. The coefficient on grants translates into a 25-percent reduction in the probability of dropping out for a $1,000 increase in grants. Loans did not have a statistically significant effect.

We also analyzed subsamples of the data separately. Participation in the high-need program was a significant factor for second-year students and the lowest and highest income groups (see table II.9). For the lowest income students, a program participant was 64 percent less likely to drop out than a nonparticipant. Grants were more effective than loans in

reducing the probability of dropping out for students in all years, except for the fourth year when neither had a significant effect, and in all income groups. Loans did not significantly reduce dropout probabilities for any of these groups.

Table II.9: High-Need Program Participation and Grants Reduce Dropout Probability for Many Groups

Population	Variable	Coefficient	Standard error	t-Value
Overall				
	Grants[a]	–0.403	0.0848	–4.75
	Loans	–0.0350	0.0819	–0.43
	Cumulative loans	0.0501	0.0530	0.95
	High-need program[a]	–0.560	0.192	–2.91
Year 1				
	Grants[a]	–0.548	0.142	–3.86
	Loans	–0.138	0.136	–1.02
	Cumulative loans	[c]	[c]	[c]
	High-need program	–0.402	0.317	–1.27
Year 2				
	Grants[b]	–0.313	0.160	–1.96
	Loans	–0.0901	0.167	–0.54
	Cumulative loans[b]	0.280	0.146	1.92
	High-need program[a]	–0.852	0.362	–2.36
Year 3				
	Grants[a]	–0.539	0.205	–2.63
	Loans	–0.0960	0.191	–0.50
	Cumulative loans	0.0277	0.126	0.22
	High-need program	–0.667	0.493	–1.35
Year 4				
	Grants	0.114	0.267	0.43
	Loans	0.205	0.256	0.80
	Cumulative loans	0.0210	0.0944	0.22
	High-need program	–0.425	0.542	–0.78
Lowest income				
	Grants[b]	–0.266	0.161	–1.65
	Loans	0.148	0.177	0.83
	Cumulative loans	0.175	0.138	1.27
	High-need program[a]	–1.06	0.400	–2.66
Middle income				
	Grants[a]	–0.267	0.135	–1.97
	Loans	–0.0660	0.132	–0.50

(continued)

Population	Variable	Coefficient	Standard error	t-Value
	Cumulative loans	-0.0139	0.0824	-0.17
	High-need program	-0.226	0.280	-0.81
Highest income				
	Grants[a]	-0.749	0.168	-4.46
	Loans	-0.183	0.138	-1.32
	Cumulative loans	0.0795	0.0825	0.96
	High-need program[a]	-1.071	0.470	-2.28

[a]Significant at the 5-percent level.

[b]Significant at the 10-percent level.

[c]Omitted from regression because value was zero for all observations.

Summary of Discussion Panels With Financial Aid Directors and Interviews With Students

Some of the financial aid directors in our discussion panels told us that reductions in federal grants have required students to borrow and work more while in college. They said that some low-income students are reluctant to borrow, especially during their first year or two in college. Some low-income students we talked to told us that borrowing was initially difficult. Several of them said that with less grant aid, they would have either not attended or chosen a lower cost college. The directors we spoke with were generally positive about potential benefits of frontloading grants, while students tended to emphasize the importance of year-to-year consistency in their aid packages.

Comments From Discussion Panels With Financial Aid Directors

The federal financial aid shift from grants to loans has put cost pressures on students, according to financial aid directors we spoke with. Students have generally borrowed more and, in some cases, worked more than in the past to meet their educational expenses, according to some of the directors, but most of them did not believe dropout rates had increased as a result of the changes. However, some told us this was only because of institutional aid increases, while one noted that the effects of very recent increases in borrowing have not yet been felt. Individual student attitudes toward debt vary, many directors said, and these attitudes can change over students' years in college. Some directors expressed concern about increases in students' working and the effects on their studies. The directors generally reacted positively to the idea of frontloading grants, and they told us some potential advantages as well as pitfalls of such a program.

Response to Changes in Federal Financial Aid

Many directors noted that in the last 10 to 15 years, federal funding for postsecondary student financial aid at their institutions, especially grant aid, has been level, actually decreasing in constant dollars. This decrease has put pressure on educational institutions, states, and students to fill the gap between the federal financial aid available and rising costs.

Schools have responded by substantially increasing their institutional grant budgets, some directors said. In addition, some schools have redefined "high-need students," recognizing that they can adequately serve only those with the very highest need. Some directors expressed concern about (1) reaching the limits of their abilities to draw upon endowment and other outside resources to bolster their financial aid budgets or (2) the impact this may have on diversity goals for their student body.

Several directors said that some states have responded by developing strong state financing programs. Because most state treasuries are not in a position to fill the gap created by declining federal dollars, discussion in the financial aid community has explored new and innovative financing strategies for public institutions. One example is a high-tuition/high-financial-aid model, under which tuitions are raised and some of the increased revenue is used to aid students who could no longer afford to attend.

Students tend to borrow more and, at some schools, work more now than in the past, some directors said. One director observed that students are borrowing more to make up the gap between what his school expects them to save during the summer and what they are able to save, based on their earnings. Several directors also noted a large upturn in borrowing in the last year or two. Some directors believe students now hold jobs during the school year more than they used to, but others said that students work at about the same rate as in the past.

Changes in Financial Aid and Student Dropout Rates

In general, most directors said that changes in federal financial aid have not greatly affected dropout rates for the student population as a whole, but some directors were concerned about dropout rates for specific groups. They also stressed the efforts their schools make to retain students, and they noted that students leave school for nonfinancial as well as financial reasons.

Some directors were most concerned about educational access for specific types of students, such as those from working-class families; minorities, particularly African American males; and out-of-state students at public institutions. One director expressed concern that some low-income and minority students do not even apply for college because of perceptions about high costs and limited financial aid. Another director stressed that it is not the prospect of large loan balances that deters low-income students from enrolling at his institution but the difference between the total education costs and the available financial aid. Another director stated that the federal government needs to (1) concentrate grant dollars on needy families who do not have other resources and (2) give loan money to those who have the means to pay it back. For needy students, he said, more loans may not help as much as more grants, but, for less needy students, more loans may help keep them in school.

Some of the directors discussed their schools' efforts to retain students and suggested that changes in federal financial aid would have hurt students more if their schools had not made such efforts. One director described his school's posture toward retaining students as aggressive. He explained that if a student is withdrawing from his institution for financial reasons, the financial aid office will work with the student and try to come up with a solution that will allow him or her to stay. Another director stated that his office is also geared toward keeping students in school and that at least for students considering dropping out for financial reasons, the school is successful approximately 99.5 percent of the time.

Nonfinancial factors also cause students to leave school. For example, one director said, some students, particularly first-generation students, must contend with competing demands from their families. Academic performance also affects whether students remain in college. In fact, another director stated, students' grade-point averages are the best retention indicators because they reflect how well the students are doing academically and how well students like their academic programs.

Finally, some directors described factors that cause students to take longer to graduate than they used to, even if they do not drop out. For example, students may take time off to work because of concern about indebtedness, or they may change their fields of study several times.

Student Awareness and Concern About Debt

Student attitudes toward debt vary, financial aid directors said: Some students are very concerned about borrowing, while others borrow large amounts to finance their education. Some directors said that low-income or minority students are more reluctant to borrow than other students. Directors' opinions also varied on the effects of larger debt on the choices students make, such as field of study or postgraduate plans.

Student Attitudes Toward Debt

Directors' opinions varied on the degree to which students worry about accumulating debt. A student's concern about borrowing depends on a number of factors, several directors noted, including the student's year in college and individual or family attitudes toward accruing debt. For example, one director thought that students become more concerned about borrowing as they approach graduation; a second director was convinced that students are more concerned about debt at the beginning of their college careers and, over time, develop more confidence about their ability to support themselves (and therefore pay off debt).

In general, certain types of students—older, independent students, students from low-income backgrounds, and graduate or professional students—tend to be more concerned about indebtedness than others, according to several of the directors. One director noted that many college students do not pay attention to how much they have borrowed; they are just trying to get registered at the beginning of each semester. Another director stated that parents are more concerned about borrowing than students, especially once students hit the maximum loan levels.

Minority and Low-Income Students and Borrowing

The directors discussed some of the barriers to higher education for minority students. For example, one director said low rates of high school graduation reduce the pool of minority candidates. In addition, some directors saw the need for these students to borrow more to finance higher education as a barrier.

According to one director, placing greater emphasis on loans to finance higher education has clearly negatively impacted on his public school's capacity to recruit talented minority nonresident students. The high-need minority students who get a full range of aid, including grants, work-study, and loans, are reluctant to borrow, but they borrow anyway and enroll; those who get only loans, however, tend not to come. He and another director also pointed out that the minority students who are highly qualified academically are sought by many schools; therefore, these students are likely to receive attractive financial aid packages.

This director and one other mentioned that reluctance to borrow is found not only among minority students and their families but also among many first-generation, low-income college students. These students and their families fear the unknown, including what their investment in higher education will actually achieve for them and whether they will be able to repay the loan after graduation.

Effects of Larger Loan Balances on Students' Choices

Several directors thought that financial considerations were not significantly affecting students' choice of majors, although directors opinions varied. One director observed that, for the first 2 years, college is not the real world for students—it is an extension of their comfortable family life—and that students do not address career issues and the effect of their debt until later. She observed that while most students are concerned with just getting a job after graduation, many also want to "study their passion" and will not choose a field just for high pay. A second director explained that his institution has not experienced changed enrollment patterns at either the undergraduate or the

graduate/professional level; one would expect to see such changes if students were greatly concerned about their debt.

In contrast, other directors said students are looking for higher paying jobs because of high debt levels. At one institution, this has resulted in increased enrollment in fields such as engineering and decreased enrollment in fields such as education and nursing.

Finally, a few directors cannot tell what effect increased indebtedness will have on student choices because much of the increase has taken place in the last year, they said. It is thus hard to tell what impact the cumulative debt will have on students when they graduate. Students were not currently changing majors because of concerns about increased debt, these directors said, but they were not sure what impact the current increases in loans will have on students in the future.

The Effects of Students' Working

Several directors provided a variety of reasons—both financial and nonfinancial—that students work while attending school. Opinions varied on whether students are working too much, but some directors agreed that working more than 20 hours per week is too much. Some directors spoke enthusiastically about the benefits of the work-study program.

Directors mentioned several finance-related reasons why many students today work while attending school, for example, to help pay educational costs, to keep debt levels as low as possible, and to make up for gaps in their expected family contribution. Directors also mentioned that students work for nonfinancial reasons—for example, to gain work experience. Whether students choose to work while in school can also vary by the individual student's residence, according to one director—commuters tend to work more than students living on campus. Finally, a few directors stated that it is unfortunate that some federal financial aid programs—specifically the Pell grant program—contain disincentives for students to work because increased earnings can decrease a student's financial aid award.

Working too many hours is only a problem in isolated cases, one director said. Even if students are working more, according to another, no evidence shows that this has had a qualitative impact on their academic work. Another director listed the risks students face when they choose to work more than 20 hours per week while attending school full time,

including eroding the quality of their academic experience, isolating them from campus activities, and extending the time it takes them to graduate.

Some directors cited the numerous and varied benefits of the work-study program, especially compared with off-campus work. Several directors mentioned that work-study helps students stay in college because they become more connected to the institution, develop relationships with mentors, and learn more about the school. Other benefits they mentioned included higher academic achievement because hours are controlled and tend to be more flexible; new skill acquisition, if the work is related to career goals; and reduced resentment among other students toward financial aid recipients because they are not being given something for nothing. Several directors mentioned the immediate need for more work-study dollars at their schools.

Frontloading Grants

Frontloading grants could be beneficial, according to some directors. A potential benefit of frontloading, according to one director, is that it would give students more confidence in their ability to manage their debt: They would not need to borrow until they were sure they could do the work and finish their college education. Some directors also mentioned that frontloading could help with retention and increase accessibility for students from special populations. Some noted that it could assist institutions in maintaining a more consistent aid policy over time and result in more uniform aid packages across institutions.

Some directors raised concerns about frontloading. One concern was that it could be perceived as a bait-and-switch policy, because students were attracted to schools with large grants only to find that those grants were not available for all 4 years. Other concerns were that frontloading might still waste federal resources when students drop out, might not work in the absence of additional support services, and could concentrate federal grant dollars in 2-year institutions. In addition, the idea of frontloading is not based on data about the impact of grants on helping students stay in college, one director noted.

One director's recommendations for structuring a frontloading program included targeting specific populations and combining the program with income-contingent loans in the later years. Income-contingent loans, for which monthly repayment amounts are adjusted depending on income, would make it easier for graduates in low-paying jobs to repay. Another director stressed that whatever option the federal government chooses, it

is important to stick to it. According to her, one of the most difficult problems students face, when beginning their college careers, is that they cannot be confident that the financial aid they receive the first year will be available in subsequent years; therefore, they cannot plan accordingly.

Comments From Interviews With Students

Many students we interviewed said that without grants they would not be in school or would not be at that particular school. Although they generally preferred grants to loans, their answers varied when asked to choose between small grants and larger loans. The students were generally concerned about the levels of debt they were accumulating during college, but a number of them did not believe their debt levels would affect future decisions they made about careers or postgraduate work. They wanted to keep loan amounts as low as possible, but many of them would borrow whatever necessary to finish their college education because they knew the value of the degree, they said. Most of the students we interviewed worked while attending school, and many cited benefits of working in addition to earning money. However, some said the amount they worked threatened their ability to focus on schoolwork or hurt their grade-point averages.

Grants Often Affected Student Choices

Students we spoke with generally preferred grants to loans, and grant availability sometimes influenced their choices. Some students, however, indicated they would prefer larger loans to smaller grants, simply because they needed the larger amount of money to remain in school each year. Students also had different opinions on whether grants early in their college careers were more important than grants as they approached graduation, with many saying year-to-year consistency was important to them.

Grants Brought Some Students to Their Current Schools

For some students, the availability of grants helped determine the schools they attended. Some of these students chose private schools and said they would not be at those schools without grants. These students often received grants from their schools of over $10,000, or more than four times the maximum federal Pell grant, and many of them specifically mentioned public or community colleges as alternatives if they had not received these grants. Some students at public schools also said that they might not have been able to stay in school without grants. Finally, several students said that they would have worked more or taken time off, extending the time they needed to complete college.

The absence of grants also affected some students' choices. Some of the students we interviewed began postsecondary education at a community college, and then transferred to a 4-year school, to minimize costs or debt. One student who transferred to a public school said that if more grants had been available in her first year, she would have started at the 4-year school she now attends. However, other students began at community colleges for nonfinancial reasons. For example, one student said she might have started at the community college even if more grant money had been available her first year because she was returning to school after being out for several years and the community college made for an easier transition.

Students' Preferences Vary When Choice Between Grants and Loans Is Constrained

We asked students what they would do if their aid package left them short of what they needed and they had to choose either a small grant or a larger loan to complete their financial aid offer. The federal cost of a grant is three to four times that of a loan per dollar of aid, meaning that a grant of $1,000 costs the federal government about the same as a $3,000 to $4,000 loan. We asked students which they would prefer.

A small grant might not be enough to keep them in school, some students said; if their need was such that only a large loan would be what they needed to pay for costs through the year, they would choose the loan. Some specifically mentioned not wanting to work more than they already did. Several others said they did not know how they would raise additional money to cover the remaining gap.

Others would choose small grants over large loans, preferring to make up the difference with either additional work, reduced living expenses, or an increased parental contribution. Some of these students said they would do whatever they could to avoid borrowing more than necessary.

Option of Shifting Grant Money to Students' Early Years Drew Mixed Reaction

We asked students whether they would have preferred an aid packaging scheme that frontloaded grant aid. Many students said they would not favor such a packaging plan, preferring grants "spread out" over their college years. Some saw frontloading as a departure from "consistency" in aid packaging and said consistency from year to year was important to them. On the other hand, some students saw advantages to such aid packaging. One student said that it would be an incentive to start school and that after 2 years students know the system better and know how to succeed. Another student reacted positively to the idea that students would have an opportunity to "prove you can do the work" before borrowing.

Students Expressed Concern About Debt Levels, but Many Would Borrow Whatever Necessary to Stay in School

Students we interviewed generally did not like borrowing to finance their education, but many expected to have to do so and thought the education or degree they would receive was worth going into debt for. Some students told us that their anticipated debt at graduation worried them or influenced what they planned to do after graduation, but others said that their choice of major or planned career was not at all influenced by earnings potential or the need to repay their loans. Among those whose attitudes toward borrowing had changed over time, some said that they had become more reluctant to borrow; others said that they found borrowing easier as they went further in school.

Students Expected to Borrow to Attend College

Many students said they were aware of the need to borrow before they began college. They sometimes mentioned that a parent, sibling, or other acquaintance had borrowed to attend college; some said borrowing was "expected," "the price you have to pay," or "a necessary evil." On the other hand, several students were the first in their families to go to college, so they told us that accumulating educational debt was a new phenomenon for them.

Generally, students were in agreement that borrowing was worthwhile, given the rewards of higher education.[26] Many students spoke of it as an "investment." In addition, a number of students said they would borrow whatever was necessary to remain in school.

For Many Students, Borrowing Did Not Affect Future Plans; Some Reported Concern

Many students told us that they selected a major or career without regard to potential earnings or ability to repay loans, but repayment did affect the choices others made. Some of these students said that they were studying a certain field because they had always wanted to. Several said that they would worry about repayment when the time comes. Others, however, were either worried that their field was not high paying and loan repayment would thus be difficult or were not concerned because they knew their field was high paying.

Debt levels also played a role in some students' plans for further education in graduate or professional schools. One student said that she was considering going to law school immediately after graduating because she knew she could then defer repayment of her undergraduate loans. Other students, however, wanted to take jobs immediately and begin paying off their accumulated debt. Some said that they knew they would need to borrow for additional schooling and (1) did not want to borrow any more

[26]Again, we spoke with current students, not dropouts or those who never attended college. Attitudes among those not in college could vary greatly from the attitudes of current students.

than necessary while undergraduates or (2) wanted to work to repay their undergraduate loans before borrowing more for postgraduate work.

Attitudes About Loans Often Changed Over Time

Students' thinking about loans often changed while they were in college. For some students, borrowing grew easier as time went on. For these students, taking out the first loan was "scary" and the families were hesitant. Several students who began in community colleges and then transferred to 4-year schools mentioned that they did not need to borrow until they got to the 4-year school. One of these students, as well as another who began at a 4-year school, mentioned that it is easier to borrow with several years of completed schooling under one's belt. Others said that borrowing became easier or "routine" after the first loan.

Other students, however, found that borrowing became more difficult as they approached graduation. For these students, the first loan came at a time when repayment was far in the future, but repayment loomed much closer at graduation. One mentioned that the thought of loans accumulating stayed in the back of her mind; others said the cumulative amount of their debt, not the amount they borrowed in any one year, was what concerned them.

Working While in School Plays an Important Role

Work played a large role in the lives of most of the students we interviewed. Students worked for the money they earned but also for other benefits, such as learning about time management, gaining job experience, and discovering networking opportunities with different offices or departments in their schools. Those in on-campus jobs told us that they had more flexibility in scheduling their work hours and also were better able to make contacts with their schools. Some students said that they worked as much as they could, but others said that they were working too much and their studies were suffering.

Students Worked for Money They Earned

Earning money was the benefit of working that students cited most often. Many students said they used the money they earned for living expenses. Others saw work more as one component of their overall plan to finance their education. For example, several students mentioned that working helps reduce the amount they need to borrow.

Several students we talked to were concerned enough about finances that they chose jobs not for convenience but for higher pay, turning down work-study jobs because of fears the money would run out or because

other jobs paid more. Another student, however, said she wanted a work-study job because it paid more than the job she currently held.

Students Found Other Benefits to Working

Many students said that working helped them budget or manage their time or that it adds structure or discipline to their schedule. Another benefit of working was gaining job experience, including particular job skills. Some students worked in an office setting for the first time and learned to work with computers. Several also said that work looks good on their resumes or when applying for future jobs.

Students Tended to Favor On-Campus Employment

A number of the students we talked with said they preferred on-campus jobs to off-campus ones. These students said that the main advantages to working on campus were convenience and flexibility. Some on-campus jobs allowed students to shift their hours if their school work or other demands became burdensome; others allowed students to set their own schedules around their class schedules. Several students working on campus told us that they could sometimes study while at work, although at least one student with an off-campus job was also able to study occasionally. Finally, several students said that the on-campus location was important simply because they did not have to spend time commuting to work. For example, one student said she did not have a car and would not have been able to work off campus.

On-campus jobs also gave some students a sense of being more connected with their school. Through work, these students said, they made contacts with campus offices that helped them later on. For example, working in the financial aid office helped some students learn more about the financial aid system.

In contrast, students working off campus sometimes mentioned inconveniences associated with their work. The time spent commuting to work was an important concern for some. In addition, off-campus jobs tended to have less flexible hours and schedules. Some students, however, preferred off-campus work because they could earn more than in an on-campus work-study job.

Work Sometimes Interfered With Studies, Especially if More Than 15 to 20 Hours per Week

Some students said that working affected their academic studies. These students worked a range of weekly hours, one student as few as 8 hours but most over 15 hours per week. One student said that he worked 40 hours per week for 1 year because he had no other financial support; he had to drop out because of bad grades that year. He transferred, received

financial aid, and was currently working 22 hours, earning a 3.7 grade-point average.

Other students, with a similar range of hours worked, said that working did not affect their study time or hurt their grades. Although their hours varied, these students generally worked fewer than 20 hours per week. In addition, several said that (1) if they were not working, they would probably not be using that time for additional studies or (2) students who work perform better academically than those who do not.

We asked some of the students how much they could work without hurting their studies or how much would first begin to hurt their studies. Most responses were in the 15- to 20-hour per week range.

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